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NPIC/R-856/64
September 1964

TCS-7887/64
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2 Pages

PHOTOGRAPHIC INTERPRETATION BRIEF

HF COMMUNICATIONS FACILITY TYUMEN ICBM COMPLEX, USSR

CIA DIA

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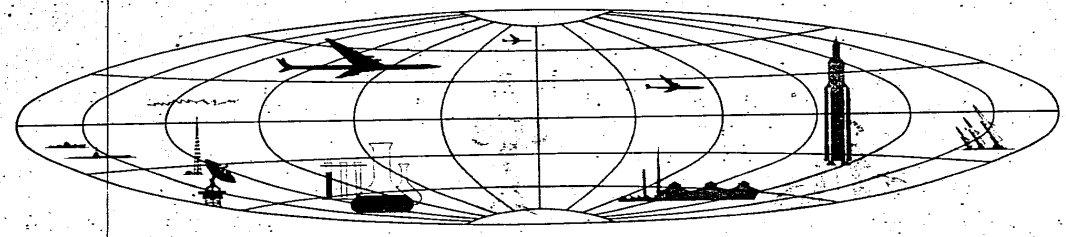

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Title: HF Communications Facility, Tyumen ICBM Complex, USSR	Geo Coords: 56-53-30N 65-49-40E	COMOR No: None	Publication No: NPIC/R-856/64
	NPIC Target No: None	BE No: None	Date: September 1964

25X1D Photo Dat[redacted]

References: USATC, Series 200, Sheet 0156-20HL, 2d ed, Apr 63 (SECRET)
NPIC Project N-843/64 (NSA/P0432/R87-64)

A high-frequency (HF) communications facility, situated 2 nm west of Bogandinskaya near the Tyumen ICBM Complex support facility, contains two HF half-wave single-bay fishbone receiving antennas (apparently 2-2-2 configuration), a single HF horizontal dipole antenna, and an unidentified possible antenna (Figure 1).

25X1B [redacted] with the Tyumen ICBM Complex. 1/ No control building can be seen, but the logical area for its probable future location appears to be recently cleared.

25X1D The earliest definite evidence of this facility occurs on photography of [redacted] 2/ on which clearings for the antennas can be seen. There is no indication of activity in the area on earlier photography. 3/ 4/

Frequency calculations, based on observable measurements (Table 1) and on assumed inherent antenna characteristics, 5/ indicate both fishbone antennas have a broadband capability with a useful range from 3 to 13 megacycles (mc). Because of photographic limitations, the frequency range of the horizontal dipole can only be approximated; however, assuming the antenna to have a center-fed arrangement, its measurements indicate a fundamental frequency of 3.5 mc. As such, it could be parallel tuned to operate multiband at 3.5, 7, 14, and 28 mc. This range amply covers the frequencies used for both day and night operations.

25X1D

Table 1. Selected Data

Antenna Type	Azimuth (degrees, [redacted])	Length (feet between end poles [redacted])	Width (feet between side poles [redacted])	Probable Frequency (mc)
25X1D				
25X1D Fishbone (2)	278	315	195	3-13
Horizontal dipole	275	130	--	3.5 (fundamental) 7, 14, and 28

ADDITIONAL REFERENCES

1. NPIC. R-842/64, *ICBM Complex, Tyumen, USSR*, Sep 64 (TOP SECRET RUFF)

25X1D [redacted]

5. Laport, *Radio Antenna Engineering*, p 340, New York, McGraw Hill, 1952 (UNCLASSIFIED)

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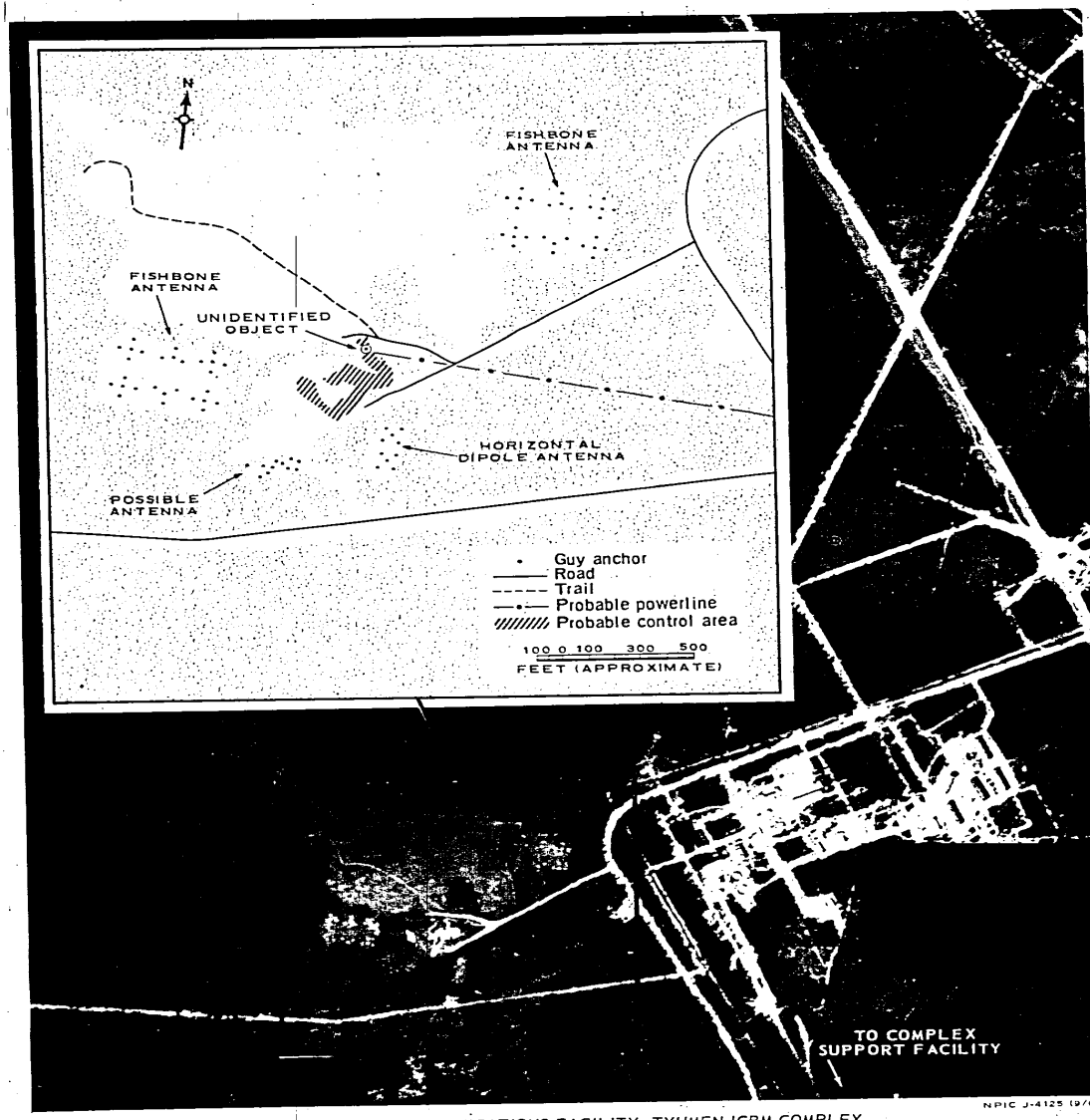

25X1B

25X1D

FIGURE 1. HF COMMUNICATIONS FACILITY, TYUMEN ICBM COMPLEX.